SOME NEW ENGLAND SYRPHIDÆ.

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Microdon tristis Loew.

The variations of this species are not clearly defined and it is difficult to separate them with the descriptions available. With a series of thirty-seven specimens before me they seem to be readily separated into two species by the form of the scutellum. In *M. tristis* the scutellum is rather plane or flattened and somewhat rugose, angulate and emarginate, with the spines at the extreme angles, the pile thin so that the outline of the scutellum can be seen distinctly.

The other form has the scutellum noticeably convex, the margin rounded and scarcely angulate, the small spines more approximate and hidden in the long dense pile. The tarsal joints are slightly more dilated and the abdomen of the females are as a rule much broader. For this species the name *M. cothurnatus* Bigot can be used, as I see no character to separate the eastern and western forms. Bigot's type was from Washington and specimens from Seattle agree with his description. It is more northern in its distribution than *M. tristis* although both are found in southern New England, northern New Jersey and Pennsylvania. Specimens before me show the following distribution: Capens, Moosehead Lake, Me., July 15; Bretton Woods, June 24, and Halfway House, Mt. Washington, N. H., July 6 (C. W. Johnson); Kearsarge, N. H., July 2, and West Chop, Mass., July 4 (A. P. Morse); Newton, Mass., bred from pupæ (F. C. Bowditch); Framingham, Mass., pupa, April 19, imago, May 12 (C. A. Frost); Lyme, Conn., pupa, April 30, imago, May 26 (A. B. Champlain); Darien, Conn., (♂, ♀) June 12; Newark, N. J., June 14 (C. W. J.) and Lehigh Gap, June 28 (C. T. Greene).

M. tristis was described from Virginia. I have specimens from Pennsylvania, New Jersey, Connecticut, and as far north as Great Barrington and Auburndale, Mass.

Microdon megalogaster Snow.

One specimen of this species was collected by the writer at Darien, Conn., June 12, and four specimens at Great Barrington, Mass., June 16; the latter were captured on or flying around an ant hill.

Sphærophoria.

The variations in the species of this genus are very difficult to define, while the great difference in the sexes also adds to the confusion. In the eastern United States and Canada there are apparently four species, which may be briefly tabulated as follows:

Table of Species.

1. Lateral thoracic stripe ending at the suture 2
   Lateral thoracic stripe continuous 3
2. Face entirely yellow, abdominal bands beyond the second segment present in the female, usually obsolete or wanting in the male, length 8 mm . . . . . *cylindrica* Say.
   Face with a wide black stripe, abdominal bands similar in both sexes, length 8 mm . . . . . *novæangliæ* sp. nov.
3. Abdomen in the male with a series of yellow spots, in the female with widely interrupted bands narrowly connected with the lateral margin, length 8 mm . . . . . *strigata* Staeg.
   Abdomen with bands on the first four segments, the others irregularly marked with black, length 8-10 mm., *scripta Linn.*

Sphærophoria novæangliæ sp. nov.

S. cylindrica var. (*d*) Williston, Synopsis N. Amer. Syrphidæ, p. 105, 1886.

♂. Face and front pale yellow, a broad stripe extending from the mouth to the base of the antennæ, a small spot above the base of the antennæ and the vertex black, basal two-thirds of the proboscis black, the rest brown, antennæ yellow, upper edge of the third joint and arista brown. Thorax dark greenish black, shiny, the yellow lateral stripe extending only to the suture, pleura black, a small spot above the front and middle coxæ and a large spot in front and behind the base of the wing and the scutellum pale yellow, hairs of the latter black. Abdomen black, the broad yellow band on the second segment slightly wider at the middle becoming gradually narrower towards the lateral margins, band on the third segment double the width in the middle as at the lateral margins,

fourth segment with only a wide dorsal triangle, the lateral extensions being either very narrow, obsolete, or wanting, the fourth and fifth segments shiny, with the margins strongly tinged with reddish brown, all of the segments having a very narrow lateral margin of yellow, genitalia reddish, venter yellow, legs yellow, coxæ livid or slightly marked with brown, front and middle femora with a small spot above near the base and tarsi brown, posterior femora with a subapical and the tibiæ with an apical band of black, with the entire tarsi also black. Halteres yellow. Wings hyaline slightly tinged with brown, stigma yellow. Length, 7.5 mm.

♀. Front yellow, with a wide black stripe about one third its width extending from the black of the vertex to the base of the antennæ, face and thorax as in the male. Abdomen bluish black, shiny, the broad, even bands of the second, third and fourth segments narrowly margined with opaque black, fifth with lateral spots and the narrow posterior margins of both the fourth and fifth segments yellow. Legs including the coxæ pale yellow, the tip of the posterior tibiæ and all of the tarsi blackish. Length, 7 mm.

Fourteen specimens. Holotype, Princeton, Me., July 12, 1909. Allotype, Shackford Head, near Eastport, Me., July 16. Eight paratypes, Princeton, Eastport, Machias (July 19), and Capens, Moosehead Lake, Me., July 17, 1907. Hanover, July 5, 1908; Bretton Woods, June 25, 1913, and Chester, Mass., May 26, in the collection of the Boston Society of Natural History. Two paratypes, Eastport (♂), Bretton Woods (♀), in the Museum of Comparative Zoölogy, and two from Capens, Me., and Bretton Woods, N. H., in the author's collection.

The species is readily distinguished by its black facial stripe. In some specimens the fifth, fourth and part of the third abdominal segments are somewhat reddish.

Sphærophoria strigata Stæger.

This species is common in Labrador and Newfoundland. In New England it has only been collected at Hampton, N. H., May 20, 1907, by Mr. S. A. Shaw.

Melanostoma.

The species of the *mellinum* group of the genus Melanostoma are even more difficult to separate than the species of the genus Sphæro-

phoria. This is due not only to a still greater diversity in the color markings of the sexes but to the similarity of the females of all the species of this group. That this trouble is not confined to America is apparent when we consult the works of European dipterists.

M. mellinum L. and *M. scalare* Fabr. have been united and again separated either as varieties or species. Verrall, in his work on the British Syrphidæ, gives a lengthy account of the synonomy and variation of the two forms, and says: "Both species are common and are soon recognized by collectors, but melanoid forms of the female are as common as in *M. mellinum* and become veritable stumbling blocks; the absence of eye-margins separate them from *Chilosia* while the pale antennæ and legs separate them from most all species of *Platychirus* and the absolutely blackish face from all species of *Syrphus*."

In the mélange I have been unable to recognize *M. scalare* in America. *M. mellinum* is found throughout the greater portion of the United States and Canada, a common and easily recognized species in most localities. In the material collected on Mt. Washington, N. H., however, this is not the case. Here there are three marked forms, the males of which are readily separated, but the females are often very difficult to distinguish. One of these has been referred to *M. angustatum* Will. by Coquillett in Mrs. Slosson's list (Ent. News, Nov. 1896, p. 263). The species was described by Dr. Williston from Washington in 1886 (Synop. N. Syrphidæ, p. 50). The Mt. Washington specimens are smaller (7 to 8 mm.) and the antennæ and legs are much darker than specimens from Seattle, Wash. A specimen from Hanover, N. H., and one from Mt. Equinox, Vt., resemble more closely in this respect the western form. The second form is common at an elevation of from 2,000 to 4,000 feet, often associated with M. *angustatum*, and may be characterized as follows:

Melanostoma montivagum sp. nov.

♂. Face shining blue-black, front bronze, antennæ black, base of the third joint slightly reddish. Thorax greenish-black shining. Abdomen black, shining, second segment with two small, obscure, yellowish spots, third and fourth segments with dull yellow subquadrate spots. Legs black, the tips of the anterior

and middle femora and bases of the tibiæ yellowish, the remainder of the tibiæ and the tarsi brownish. Wings infuscated. Length, 7 mm.

♀. A specimen taken at the same time and place as the male described above has the front and middle legs brown with the tips of the femora and bases of the tibiæ yellow, posterior legs black with the bases of the femora and tibiæ yellow, the yellow of the antennæ covering a large portion of the third and part of the second joint, the spots on the second segment of the abdomen very small, those on the second and third dull yellow and the triangular outline poorly defined. Wings equally dark as the male but this does not hold true in all of the specimens referable to this form.

Twenty-two specimens. Holotype and allotype, Halfway House (4,000 feet), Mt. Washington, July 6, 1914. Specimens were also collected near the Glen House, on the carriage road at about 3,000 feet, and in Tuckerman's Ravine. A specimen was also taken by Mrs. Slosson at the summit. The latter specimen was in the U. S. National Museum and was kindly loaned to me by Mr. F. Knab. It was marked "*Melanostoma* n. sp." in Mr. Coquillett's handwriting. Types and ten paratypes in the collection of the Boston Society of Natural History. Other paratypes in the Museum of Comparative Zoölogy, U. S. National Museum, Academy of Natural Sciences, and the author's collection.

Two of the paratypes (♂, ♀) in the Society's collection are melanic or without abdominal spots. The specimens from the Glen House referable to *M. mellinum* are slightly smaller with wings and legs somewhat darker than in the typical form. They seem somewhat intermediate in character, but I have not sufficient material to prove this; whether these mountain forms will prove to be only extreme variations or subspecies of the common *mellinum* remains to be seen. In any event names are necessary to avoid confusion.

A female specimen, a shiny, dark blue form, was also found at the Halfway House, July 6, 1914. With the limited material, I cannot separate it from *Melanostoma concinnum* Snow.

Merodon equestris Fabr.

Specimens of this species from both eastern and western Massachusetts would seem to indicate that the species was established,

and not the result of recent importations of bulbs. A specimen from Blue Hill, June 5, 1910, represents the var. *narcissi* Fabr., a specimen from Mr. J. G. Jack, the var. *transversalis* Meig. and one collected by the writer near Great Barrington, Mass., June 16, 1915, the typical *equestris*.

Xylota nemorum Fabr.

This species has been taken by the writer at Chester, Mass., August 4, 1911, and at the Halfway House, Mt. Washington, N. H., July 6, 1914.

Eumerus strigatus Fallen.

This species has recently been taken by Mr. R. T. Webber, at Melrose Highlands, Mass.

Syrphus xylotoides sp. nov.

♀. Face yellow, covered with a white pollen which extends as a wide margin on each side of the front to the vertex, leaving wide frontal stripe of shining black, vertex facial stripe, and a stripe on the cheek also black, hairs on the front and vertex black, on the face and occiput white, eyes hairy, antennæ black. Thorax bluish, shining, slightly pollinose, with a large white pollinose marking on the sides in front of the suture, pleura whitish pollinose with long white hairs, scutellum shining blue-black, margin yellowish. Abdomen long, narrow, cylindrical, black, two large light yellow quadrate spots occupy most of the second segment leaving only a narrow dorsal line and a wide posterior margin, third segment with two yellow spots near the base, fourth and fifth segments greenish, shining, the former with two small grayish pollinose spots near the base. Legs, the front and middle yellow, base of the femora and a band on the tibiæ and tarsi blackish, the posterior legs except the base of the tibiæ black. Halteres yellow. Wings grayish hyaline. Length, 11 mm.

Three specimens. Holotype and paratype, Great Barrington, Mass., June 16, 1915, in the collection of the Boston Society of Natural History. One paratype, Amherst, Mass., in the collection of the State Agricultural College.

PARASITES OF ARCHIPS CERASIVORANA FITCH.

While collecting at Bennington, Vt., from June 18–24, 1915, I found the webs of the Cherry-tree Ugly-nest Tortricid (*Archips cerasivorana*) quite abundant on the wild cherry along the hedge rows. Bringing home six of the nests to ascertain to what extent they were parasitized, the following insects emerged between July 6 and 12. Moths 302. Dipterous parasites: *Dichætoneura leucoptera* Johns. 104 and *Neopales tortricis* Coq. 2. Hymenopterous parasites: *Bassus agilis* Cress. 6, and *Labrorychus prismaticus* Nort. 26. The latter was also bred in considerable numbers from the same species at Winchendon, Mass., by the late Dr. F. W. Russell. *Itoplectis* (*Pimpla*) *conquisitor* Say. was bred from nests taken by the writer at Milford, N. H., July 5, 1914. I am indebted to Mr. H. L. Viereck for the determination of the Hymenopterous parasites.

C. W. Johnson.

A NEW ANT OF THE GENUS MESSOR FROM COLORADO.

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A few years ago Prof. T. D. A. Cockerell collected four workers of this ant at Glenwood Springs, Colo., not noticing at the time that they were anything unusual. Recently, while working on the genera *Messor*, *Aphœnogaster*, and *Pogonomyrmex*, we found these specimens mixed with the series of *Pogonomyrmex occidentalis* which they superficially resemble. It was evident that they could not belong to *Pogonomyrmex*, on account of the impressed dorsal suture and other characters, and on looking up the literature we failed to find any similar species described. Dr. W. M. Wheeler, who kindly examined a specimen confirms the species as new, and considers that it must be referred to *Messor* rather than *Aphœnogaster*. He further notes that it presents some characters suggesting that it may, in a certain sense, be regarded as intermediate between *Messor* and *Pogonomyrmex*.